

1644



RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/627,896

DATE: 08/15/2002

TIME: 13:50:06

Input Set : N:\Crf3\RULE60\09627896.raw

Output Set: N:\CRF4\08152002\I627896.raw

RECEIVED

AUG 20 2002

TECH CENTER 1600/2900

ENTERED

1 <110> APPLICANT: Co, Man Sung
 2 Vasquez, Maximiliano
 3 Carreno, Beatriz
 4 Celniker, Abbie Cheryl
 5 Collins, Mary
 6 Goldman, Samuel
 7 Gray, Gary S.
 8 Knight, Andrea
 9 O'Hara, Denise
 10 Rup, Bonita
 11 Veldman, Geertruida M.
 12 <120> TITLE OF INVENTION: HUMANIZED IMMUNOGLOBULIN REACTIVE WITH
 13 B7-2 AND METHODS OF TREATMENT THEREWITH
 14 <130> FILE REFERENCE: GI-5315
 15 <140> CURRENT APPLICATION NUMBER: 09/627,896
 16 <141> CURRENT FILING DATE: 2000-07-27
 17 <150> PRIOR APPLICATION NUMBER: US/09/249,011
 18 <151> PRIOR FILING DATE: 1999-02-12
 19 <160> NUMBER OF SEQ ID NOS: 20
 20 <170> SOFTWARE: FastSEQ for Windows Version 3.0
 22 <210> SEQ ID NO: 1
 23 <211> LENGTH: 405
 24 <212> TYPE: DNA
 25 <213> ORGANISM: Murine anti-B7-2 heavy chain
 26 <220> FEATURE:
 27 <221> NAME/KEY: CDS
 28 <222> LOCATION: (1)...(405)
 29 <223> OTHER INFORMATION:
 30 <400> SEQUENCE: 1
 31 atg ggt tgg aac tgt atc atc ttc ttt ctg gtt aca aca gct aca ggt 48
 32 Met Gly Trp Asn Cys Ile Ile Phe Phe Leu Val Thr Thr Ala Thr Gly
 33 1 5 10 15
 34 gtg cac tcc cag gtc cag ctg cag cag tct ggg cct gag ctg gtg agg 96
 35 Val His Ser Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Arg
 36 20 25 30
 37 cct ggg gaa tca gtg aag att tcc tgc aag ggt tcc ggc tac aca ttc 144
 38 Pro Gly Glu Ser Val Lys Ile Ser Cys Lys Gly Ser Gly Tyr Thr Phe
 39 35 40 45
 40 act gat tat gct ata cag tgg gtg aag cag agt cat gca aag agt cta 192
 41 Thr Asp Tyr Ala Ile Gln Trp Val Lys Gln Ser His Ala Lys Ser Leu
 42 50 55 60
 43 gag tgg att gga gtt att aat att tac tat gat aat aca aac tac aac 240
 44 Glu Trp Ile Gly Val Ile Asn Ile Tyr Tyr Asp Asn Thr Asn Tyr Asn

RAW SEQUENCE LISTING

DATE: 08/15/2002

PATENT APPLICATION: US/09/627,896

TIME: 13:50:06

Input Set : N:\Crf3\RULE60\09627896.raw

Output Set: N:\CRF4\08152002\I627896.raw

```

45          65          70          75          80
46  cag aag ttt aag ggc aag gcc aca atg act gta gac aaa tcc tcc agc      288
47  Gln Lys Phe Lys Gly Lys Ala Thr Met Thr Val Asp Lys Ser Ser Ser
48          85          90          95
49  aca gcc tat atg gaa ctt gcc aga ttg aca tct gag gat tct gcc atc      336
50  Thr Ala Tyr Met Glu Leu Ala Arg Leu Thr Ser Glu Asp Ser Ala Ile
51          100          105          110
52  tat tac tgt gca aga gcg gcc tgg tat atg gac tac tgg ggt caa gga      384
53  Tyr Tyr Cys Ala Arg Ala Ala Trp Tyr Met Asp Tyr Trp Gly Gln Gly
54          115          120          125
55  acc tca gtc acc gtc tcc tca      405
56  Thr Ser Val Thr Val Ser Ser
57          130          135
59 <210> SEQ ID NO: 2
60 <211> LENGTH: 135
61 <212> TYPE: PRT
62 <213> ORGANISM: Murine anti-B7-2 heavy chain
63 <400> SEQUENCE: 2
64  Met Gly Trp Asn Cys Ile Ile Phe Phe Leu Val Thr Thr Ala Thr Gly
65  1          5          10          15
66  Val His Ser Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Arg
67          20          25          30
68  Pro Gly Glu Ser Val Lys Ile Ser Cys Lys Gly Ser Gly Tyr Thr Phe
69          35          40          45
70  Thr Asp Tyr Ala Ile Gln Trp Val Lys Gln Ser His Ala Lys Ser Leu
71          50          55          60
72  Glu Trp Ile Gly Val Ile Asn Ile Tyr Tyr Asp Asn Thr Asn Tyr Asn
73  65          70          75          80
74  Gln Lys Phe Lys Gly Lys Ala Thr Met Thr Val Asp Lys Ser Ser Ser
75          85          90          95
76  Thr Ala Tyr Met Glu Leu Ala Arg Leu Thr Ser Glu Asp Ser Ala Ile
77          100          105          110
78  Tyr Tyr Cys Ala Arg Ala Ala Trp Tyr Met Asp Tyr Trp Gly Gln Gly
79          115          120          125
80  Thr Ser Val Thr Val Ser Ser
81          130          135
83 <210> SEQ ID NO: 3
84 <211> LENGTH: 396
85 <212> TYPE: DNA
86 <213> ORGANISM: Murine anti-B7-2 light chain
87 <220> FEATURE:
88 <221> NAME/KEY: CDS
89 <222> LOCATION: (1)...(396)
90 <400> SEQUENCE: 3
91  atg gat tca cag gcc cag gtt ctt ata ttg ctg ctg cta tgg gta tct      48
92  Met Asp Ser Gln Ala Gln Val Leu Ile Leu Leu Leu Leu Trp Val Ser
93  1          5          10          15
94  ggt acc tgt ggg gac att gtg ctg tca cag tct cca tcc tcc ctg gct      96
95  Gly Thr Cys Gly Asp Ile Val Leu Ser Gln Ser Pro Ser Ser Leu Ala

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/627,896

DATE: 08/15/2002

TIME: 13:50:06

Input Set : N:\Crf3\RULE60\09627896.raw

Output Set: N:\CRF4\08152002\I627896.raw

```

96          20          25          30
97  gtg tca gca gga gag aag gtc act atg agc tgc aaa tcc agt cag agt      144
98  Val Ser Ala Gly Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser
99          35          40          45
100  ctg ctc aac agt aga acc cga gag aac tac ttg gct tgg tac cag cag      192
101  Leu Leu Asn Ser Arg Thr Arg Glu Asn Tyr Leu Ala Trp Tyr Gln Gln
102          50          55          60
103  aaa cca ggg cag tct cct aaa ctg ctg atc tac tgg gca tcc act agg      240
104  Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg
105          65          70          75          80
106  gaa tct ggg gtc cct gat cgc ttc aca ggc agt gga tct ggg aca gat      288
107  Glu Ser Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp
108          85          90          95
109  ttc act ctc acc atc agc agt gtg cag gct gaa gac ctg gca gtt tat      336
110  Phe Thr Leu Thr Ile Ser Ser Val Gln Ala Glu Asp Leu Ala Val Tyr
111          100          105          110
112  tac tgc acg caa tct tat aat ctt tac acg ttc gga ggg ggg acc aag      384
113  Tyr Cys Thr Gln Ser Tyr Asn Leu Tyr Thr Phe Gly Gly Gly Thr Lys
114          115          120          125
115  ctg gaa ata aaa      396
116  Leu Glu Ile Lys
117          130
119 <210> SEQ ID NO: 4
120 <211> LENGTH: 132
121 <212> TYPE: PRT
122 <213> ORGANISM: Murine anti-B7-2 light chain
123 <400> SEQUENCE: 4
124  Met Asp Ser Gln Ala Gln Val Leu Ile Leu Leu Leu Leu Trp Val Ser
125          1          5          10          15
126  Gly Thr Cys Gly Asp Ile Val Leu Ser Gln Ser Pro Ser Ser Leu Ala
127          20          25          30
128  Val Ser Ala Gly Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser
129          35          40          45
130  Leu Leu Asn Ser Arg Thr Arg Glu Asn Tyr Leu Ala Trp Tyr Gln Gln
131          50          55          60
132  Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg
133          65          70          75          80
134  Glu Ser Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp
135          85          90          95
136  Phe Thr Leu Thr Ile Ser Ser Val Gln Ala Glu Asp Leu Ala Val Tyr
137          100          105          110
138  Tyr Cys Thr Gln Ser Tyr Asn Leu Tyr Thr Phe Gly Gly Gly Thr Lys
139          115          120          125
140  Leu Glu Ile Lys
141          130
143 <210> SEQ ID NO: 5
144 <211> LENGTH: 405
145 <212> TYPE: DNA
146 <213> ORGANISM: Humanized murine anti-human B7-2 heavy chain

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/627,896

DATE: 08/15/2002

TIME: 13:50:06

Input Set : N:\Crif3\RULE60\09627896.raw

Output Set: N:\CRF4\08152002\I627896.raw

```

147 <220> FEATURE:
148 <221> NAME/KEY: CDS
149 <222> LOCATION: (1)...(405)
150 <400> SEQUENCE: 5
151   atg ggt tgg aac tgt atc atc ttc ttt ctg gtt acc aca gct aca ggt      48
152   Met Gly Trp Asn Cys Ile Ile Phe Phe Leu Val Thr Thr Ala Thr Gly
153     1             5             10             15
154   gtg cac tcc cag gtc cag ctg gtg cag tct ggg gct gag gtg aag aag      96
155   Val His Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
156             20             25             30
157   cct ggg agc tca gtg aag gtg tcc tgc aaa gct tcc ggc tac aca ttc      144
158   Pro Gly Ser Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe
159             35             40             45
160   act gat tat gct ata cag tgg gtg aga cag gct cct gga cag ggc ctc      192
161   Thr Asp Tyr Ala Ile Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu
162     50             55             60
163   gag tgg att gga gtt att aat att tac tat gat aat aca aac tac aac      240
164   Glu Trp Ile Gly Val Ile Asn Ile Tyr Tyr Asp Asn Thr Asn Tyr Asn
165     65             70             75             80
166   cag aag ttt aag ggc aag gcc aca atg act gta gac aag tcg acg agc      288
167   Gln Lys Phe Lys Gly Lys Ala Thr Met Thr Val Asp Lys Ser Thr Ser
168             85             90             95
169   aca gcc tat atg gaa ctt agt tct ttg aga tct gag gat acg gcc gtt      336
170   Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val
171             100            105            110
172   tat tac tgt gca aga gcg gcc tgg tat atg gac tac tgg ggt caa ggt      384
173   Tyr Tyr Cys Ala Arg Ala Ala Trp Tyr Met Asp Tyr Trp Gly Gln Gly
174             115            120            125
175   acc ctt gtc acc gtc tcc tca      405
176   Thr Leu Val Thr Val Ser Ser
177     130            135
179 <210> SEQ ID NO: 6
180 <211> LENGTH: 135
181 <212> TYPE: PRT
182 <213> ORGANISM: Humanized murine anti-human B7-2 heavy chain
183 <400> SEQUENCE: 6
184   Met Gly Trp Asn Cys Ile Ile Phe Phe Leu Val Thr Thr Ala Thr Gly
185     1             5             10             15
186   Val His Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
187             20             25             30
188   Pro Gly Ser Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe
189             35             40             45
190   Thr Asp Tyr Ala Ile Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu
191     50             55             60
192   Glu Trp Ile Gly Val Ile Asn Ile Tyr Tyr Asp Asn Thr Asn Tyr Asn
193     65             70             75             80
194   Gln Lys Phe Lys Gly Lys Ala Thr Met Thr Val Asp Lys Ser Thr Ser
195             85             90             95
196   Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/627,896

DATE: 08/15/2002

TIME: 13:50:06

Input Set : N:\Crf3\RULE60\09627896.raw

Output Set: N:\CRF4\08152002\I627896.raw

```

197           . 100           105           110
198      Tyr Tyr Cys Ala Arg Ala Ala Trp Tyr Met Asp Tyr Trp Gly Gln Gly
199           115           120           125
200      Thr Leu Val Thr Val Ser Ser
201           130           135
203 <210> SEQ ID NO: 7
204 <211> LENGTH: 396
205 <212> TYPE: DNA
206 <213> ORGANISM: Humanized murine anti-human B7-2 light chain
207 <220> FEATURE:
208 <221> NAME/KEY: CDS
209 <222> LOCATION: (1)...(396)
210 <400> SEQUENCE: 7
211      atg gat tca cag gcc cag gtt ctt ata ttg ctg ctg cta tgg gta tct      48
212      Met Asp Ser Gln Ala Gln Val Leu Ile Leu Leu Leu Leu Trp Val Ser
213      1           5           10           15
214      ggc acc tgt ggg gac att gtg ctg aca cag tct cca gat tcc ctg gct      96
215      Gly Thr Cys Gly Asp Ile Val Leu Thr Gln Ser Pro Asp Ser Leu Ala
216           20           25           30
217      gta agc tta gga gag agg gcc act att agc tgc aaa tcc agt cag agt      144
218      Val Ser Leu Gly Glu Arg Ala Thr Ile Ser Cys Lys Ser Ser Gln Ser
219           35           40           45
220      ctg ctc aac agt aga acc cga gag aac tac ttg gct tgg tac cag cag      192
221      Leu Leu Asn Ser Arg Thr Arg Glu Asn Tyr Leu Ala Trp Tyr Gln Gln
222           50           55           60
223      aaa cca ggg cag cct cct aaa ctg ctg atc tac tgg gca tcc act agg      240
224      Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg
225           65           70           75           80
226      gaa tct ggg gtc cct gat cgc ttc agt ggc agt gga tct ggg aca gat      288
227      Glu Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
228           85           90           95
229      ttc act ctc acc atc agc agt ctg cag gct gaa gac gtg gca gtt tat      336
230      Phe Thr Leu Thr Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr
231           100           105           110
232      tac tgc acg caa tct tat aat ctt tac acg ttc gga cag ggg acc aag      384
233      Tyr Cys Thr Gln Ser Tyr Asn Leu Tyr Thr Phe Gly Gln Gly Thr Lys
234           115           120           125
235      gtg gaa ata aaa      396
236      Val Glu Ile Lys
237           130
239 <210> SEQ ID NO: 8
240 <211> LENGTH: 132
241 <212> TYPE: PRT
242 <213> ORGANISM: Humanized murine anti-human B7-2 light chain
243 <400> SEQUENCE: 8
244      Met Asp Ser Gln Ala Gln Val Leu Ile Leu Leu Leu Leu Trp Val Ser
245      1           5           10           15
246      Gly Thr Cys Gly Asp Ile Val Leu Thr Gln Ser Pro Asp Ser Leu Ala
247           20           25           30

```

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/627,896

DATE: 08/15/2002

TIME: 13:50:07

Input Set : N:\Crf3\RULE60\09627896.raw

Output Set: N:\CRF4\08152002\I627896.raw